Message

From: Seow, Jimmy [Jimmy.Seow@DER.wa.gov.au]
Sent: 12/29/2015 2:14:10 AM
To: Brooks, Bonnie (MPCA) [Bonnie.Brooks@state.mn.us]
CC: Field, Jennifer [jennifer.field@oregonstate.edu]; Krasnic, Toni [krasnic.toni@epa.gov]; Yingling, Virginia (MDH) [virginia.yingling@state.mn.us]; helen.goeden@state.mn.us; Bush, Christina Rose (DCH) [BushC6@michigan.gov]; McGlashan, Bruce (bruce.d.mcglashan@environment-agency.gov.uk) [bruce.d.mcglashan@environment-agency.gov.uk]; Donohue, Joyce [Donohue.Joyce@epa.gov]; Bert-Ove Lund (Bert-Ove.Lund@kemi.se) [Bert-Ove.Lund@kemi.se]; Landsteiner, Adrienne (MDH) [adrienne.landsteiner@state.mn.us]; CDC-Vousden, Claudia L. (CDC/ONDIEH/NCEH) (cbv5@cdc.gov) [cbv5@cdc.gov]; Ian Cousins [Ian.Cousins@aces.su.se]
Subject: RE: Analytical Test for PFBA and MPCA revised soil values
Attachments: 2013-39-EU_WFD_amendment_PFOS_eur127344_markedup.pdf

Hi Bonnie

Personal Matters / Ex. 6

Thanks for the info and yes it is very useful and intend to recommend to my Dept and to Australia we adopt yours and which is lower than the current USEPA for superfund sites values.

Kindly keep me in informed as all this evolving.

Perhaps I can share with you all listed in the cc of what I been updated and aware of in return for all of your help:

Drinking and other values water values

1. Dutch value of 0.65 ng/L of which EU has adopted – see attached doc
2. Swedish value is 0.09 ug/L as starting point for assessment for both PFOS and PFOA and also they have interim values for PFHxS and 6:2 FTS – ask Lund about it (see his email in cc)
3. USEPA revising its Provisional Drinking water values – rumour is that it is much lower and am awaiting eagerly to see what are the revised values – ask USEEPA Dr Joyce about it
4. Australia Federal Dept of Environment has come up with interim 'final' values for PFOS in water as trigger value for risk assessment in water based upon the concept of 99 %, 95 %, 90% to 80 % ecological risk protection ie different PFOS values. I have the doc but told not to share it yet until is finalised and still awaiting for it. If you ask me the value I can tell you but cannot give you the document yet. In Australia we have derived values for triggering risk assessment for site contamination of soil and water for various chemicals such as BTEX, heavy metals etc etc. PFOS derivation is something new and PFOSA not yet derived.
5. PFHxS – MDH and Texas have values
6. 6:2 FTS – so far I know only Sweden has an interim position – ask Lund. However a consultant has proposed values which I disagree on its technical argument and lack of proper documentation to substantiate its argument for its adoption..
7. PFBA and PFBS – MDH and MPCA have values
8. Fluorotelomers may it be short or long chain – a new ball game
9. Sweden – has value for grouping for 7 key PFC of concerns which is useful to capture those with no values – ask Lund
10. Court action involving 3M and DuPont in progress.
11. Australia trying to come up with its own values based upon review of others of which I am providing input hence my many questions to you all.

Happy New Year and have a good one.

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From: Brooks, Bonnie (MPCA) [mailto:Bonnie.Brooks@state.mn.us]
Sent: Monday, 28 December 2015 6:51 PM
To: Seow, Jimmy
Subject: RE: Analytical Test for PFBA and MPCA revised soil values

Hi Jimmy!

We are in the process of revising our soil risk based values (soil reference values or SRVs). It is from our draft SRV spreadsheet which is available on our website located at the link below under the "MPCA seeks stakeholder input on revised soil reference values" accordion. See the excel files "SRV Spreadsheet" and "SRV Spreadsheet – Site Specific". The first one "SRV Spreadsheet" contains our statewide applicable SRVs. The second one "SRV Spreadsheet – Site Specific" can be used to derive site specific applicable SRVs. If you are interested in how we derive the SRVs, please see the first document titled "Soil Reference Value (SRV) Technical Support Document". The "Background Threshold Document" is new since we emailed last. Some of our SRVs calculated, based on the health information (toxicology and exposure parameters) to be less than background concentrations. We evaluated background concentrations for our state for these specific chemicals.

https://www.pca.state.mn.us/waste/risk-based-site-evaluation-guidance

Hope this helps!
Have a good New Year!

Bonnie

Bonnie Brooks
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From: Seow, Jimmy [mailto:Jimmy.Seow@DER.wa.gov.au]
Sent: Wednesday, December 23, 2015 10:14 PM
To: Brooks, Bonnie (MPCA)
Subject: RE: Analytical Test for PFBA and MPCA revised soil values

Dear Bonnie

Merry Christmas

My apology for not reply to you sooner as was away overseas and then lots of work.

I cant find this in the website you gave me and its documents. Kindly tell me where it is found. Thanks

Much appreciated

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Chemical	CAS No.	Previous Residential mg/kg	Previous Recreational mg/kg	Revised Residential/ Recreational mg/kg	Previous Industrial mg/kg	Revised Commercial/ Industrial mg/kg	Previous Short-term Worker mg/kg
Perfluorobutane sulfonate (PFBS)	375-73-5			18		250	
Perfluorobutyric Acid (PFBA)	375-22-4	77	94	38	500	520	
Perfluorooctane sulfonate (PFOS)	1763-23-1	2.1	2.6	1.1	14	14	
Perfluorooctanoic acid (PFOA)	335-67-1	2.1	2.5	1	13	14	

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From: Brooks, Bonnie (MPCA) [mailto:Bonnie.Brooks@state.mn.us]
Sent: Wednesday, 19 August 2015 1:33 AM
To: Seow, Jimmy
Cc: Yingling, Virginia (MDH); Goeden, Helen (MDH); Scruton, Bill (MPCA)
Subject: RE: Analytical Test for PFBA and MPCA revised soil values

Hi Jimmy!

Sorry for the delay in responding. I was out of the office for a few weeks. The documents regarding the revised SRVs are available on our website (http://www.pca.state.mn.us/enzq83d) under the "What's New" section, "MPCA seeks stakeholder input on revised Soil Reference Values" accordion. There are 2 SRV spreadsheets, a technical support document and some presentations from a stakeholder meeting. None of this is specific to PFCs.

Nile Fellows retired a few months ago so he is no longer with the Minnesota Pollution Control Agency. Ralph Pribble works in communications so depending on what information you are seeking, he may not be able to help you. If you need information regarding the SRV revisions, I would be your contact. Bill could help you with laboratory and quality control/quality assurance information. If you want to discuss this with someone from our Remediation Division (which Nile was part of) let me know what information you are seeking and I will find out who is best to answer your questions and let you know.

Have a good day!

Bonnie

From: Seow, Jimmy [mailto:Jimmy.Seow@DER.wa.gov.au]
Sent: Thursday, July 23, 2015 3:10 AM
To: Scruton, Bill (MPCA); Brooks, Bonnie (MPCA)
Cc: Yingling, Virginia (MDH); Goeden, Helen (MDH)
Subject: RE: Analytical Test for PFBA and MPCA revised soil values

Thanks for your kind reply.

I emailed Neil Fellows and Ralph Pribble from MPCA regarding your revised MPCA values shown below and they have not yet replied perhaps on annual leave or simply busy which is understandable.

I appreciate your comments as to the rationale for the revision as it will have bearing upon us in Australia as interim values have been proposed by a consultant for our Defence and Airseservices to deal with the issue of soil contamination by PFOS and PFOA.

Could you also email me a report for the MPCA revision to be used as referencing.

Your assistance is most appreciated

Chemical	CAS No.	Previous Residential mg/kg	Previous Recreational mg/kg	Revised Residential/ Recreational mg/kg	Previous Industrial mg/kg	Revised Commercial/ Industrial mg/kg	Previous Short-term Worker mg/kg
Perfluorobutane sulfonate (PFBS)	**375-73-5**			18		250	
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Perfluorooctane sulfonate (PFOS)	**1763-23-1**	**2.1**	**2.6**	1.1	**14**	14	
Perfluorooctanoic acid (PFOA)	**335-67-1**	**2.1**	**2.5**	1	**13**	14	

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From: Scruton, Bill (MPCA) [mailto:bill.scruton@state.mn.us]
Sent: Monday, 20 July 2015 10:17 PM
To: Brooks, Bonnie (MPCA)
Cc: Seow, Jimmy
Subject: RE: Analytical Test for PFBA

Hi Jimmy,

Our contract lab (AXYS Analytical Services, Sidney, BC) analyzes for the following PFCs in many matrices:

	Matrix		
	Water/Effluent	**Soil/Sediment/Biosolids**	**Tissue and Vegetation**
Perfluorochemicals	Estimated MDL	Estimated MDL	Estimated MDL
Perfluorobutanoate (PFBA)	2.50	0.333	2.50
Perfluoropentanoate	2.50	0.333	2.50
Perfluorohexanoate (PFHxA)	2.50	0.333	2.50
Perfluoroheptanoate	2.50	0.333	2.50
Perfluorooctanoate (PFOA)	2.50	0.333	2.50
Perfluorononanoate (PFNA)	2.50	0.333	2.50
Perfluorodecanoate (PFDA)	2.50	0.333	2.50
Perfluoroundecanoate	2.50	0.333	2.50
Perfluorododecanoate	2.50	0.333	2.50
Perfluorobutanesulfonate (PFBS)	5.00	0.667	5.00
Perfluorohexanesulfonate (PFHxS)	5.00	0.667	5.00
Perfluorooctanesulfonate (PFOS)	5.00	0.667	5.00
Perfluorooctanesulfonamide (PFOSA)	2.50	0.333	2.50

They indicate that, for other clients, the PFC list is larger and they also perform analyses for related PFC issues:

1) FTS compounds (4:2, 6:2, 8:2) related to AFFF sites and Chrome plating sites (SETAC poster and method summary – MSU-081 are available)
    a. Interest stems from AFFF sites where FTS compounds are a key AFFF product component. FTS has been in use as an AFFF agent for at least 20 years. FTS containing products (usually with C6 carboxlyates or sulfonates) are key replacement products for PFOS containing AFFF products. They also

believe that FTS products are also replacement products for PFOS based acid mist suppression chemistries previously containing PFOS.

b. They believe that FTS degradation may account for significant amounts carboxylic acids (<C8, primarily C4, C5, C6). The potential to produce these compounds, plus others, from 6:2 FTS is covered in Wang et al 2010 Chemosphere. In AFFF work they have seen C4, C5, C6 in abundance at most sites (1,000s to 100,000s ng/L dependent on site and distance from application areas). They targeted some of these sites in the poster to analyze FTS. The posters shows some typical carboxylate and PFOS values at an AFFF site plume, followed by FTS values. They also believe the same issue may occur in chrome plating where this carboxylate signature is also seen.

c. The FTS tests are available currently. It may change dependent on volume of use. For FTS analysis, the key issues are likely control of enhancement (FTS is very susceptible to this, often by 200-300%) and sample stratification. They've set their DLs a little higher than other perfluorinated compounds (10 ng/L) based on 100 mL sample as part of the control on this.

2) Perfluorinated phosphorous compounds

a. AXYS expected to release a method early in Q1 2012 for the following fluorinated phosphorous compounds. They have targeted water and POTW water and solids as the primary matrices of interest. They think the compounds may be most important as a source of other perfluorinated compounds in the environment through degradation.

b. The 2011 release of native and labeled compounds has made the development of this test possible

Table 1. Current Native target list

Chemical	Acronym	Parent Ion	Product Ions
1H,1H,2H,2H-perfluorooctylphosphate	6:2 PAP	443	97, 79, 423
Bis(1H,1H,2H,2H-perfluorooctyl)phosphate	6:2 diPAP	789	97, 79, 443
1H,1H,2H,2H-perfluorodecylphosphate	8:2 PAP	543	97, 79, 523
Bis(1H,1H,2H,2H-perfluorodecyl)phosphate	8:2 diPAP	989	79, 97, 543
Perfluorooctylphosphonic acid	PFOPA	499	79
Bis(perfluorooctyl)phosphinate	8:8 PFPi	901	501,132,63

I hope this information is helpful. If you have any technical questions about this info, please contact me. Thanks.

William Scruton
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From: Brooks, Bonnie (MPCA)
Sent: Monday, July 20, 2015 5:58 AM
To: Scruton, Bill (MPCA)
Cc: 'Seow, Jimmy'
Subject: Analytical Test for PFBA

Hi Bill!

Jimmy Seow from Australia has asked the following question. Could you please answer him directly cc me? I will be out for a few weeks so I will not be able to forward him any information.

The labs in Australia besides analysing for PFOS PFOA 6:2 FTS etc can also analyse for PFBS but not PFBA (they say they don't have the standards). How do the labs in Minnesota analyse for PFBA.

Thanks so much for your help!
Have a good day!

Bonnie

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